BC College and Institute Student Outcomes ISSUE PAPER Spring 2000 Vol. 1 No. 1

Outcomes of Former College and Institute Students From High-Tech Programs

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ISSUE PAPER HIGHLIGHTS

- 89% of former high-tech students said their programs were useful for getting jobs
- 80% of former students were either "working" or "working and studying"
- More former high-tech students were working in training-related jobs in 1998 than in 1995
- To "obtain job skills" and "decide on, or change, careers" were common goals for high-tech students
- 80% of high-tech students said their studies were "completely" or "mainly" satisfying

BC'S HIGH-TECH SECTOR

Since the late 1980's there has been remarkable growth in British Columbia's high-technology sector. In 1997 this sector produced five billion dollars in revenue and in 1998 generated two billion dollars in wages, and spawned 500 new high-tech establishments; each area showed significant growth from the previous year. (*The BC High Technology Sector, 1999, pg. iii, BC Stats.*)

This economic growth has been accompanied by an increased demand for skilled labour. Between 1990 and 1998, employment in the high-tech sector increased 7.2 percent, outpacing a 1.7 percent increase in all other industries.

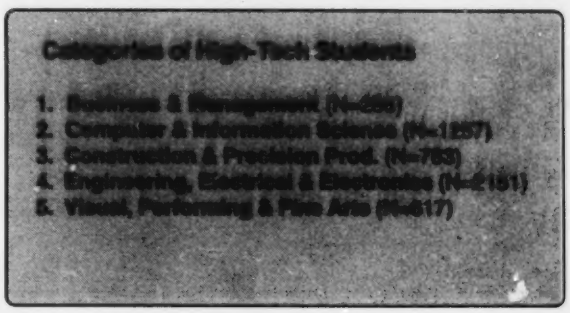
The majority of this growth was in the "service" industries which grew 4.3 percent, almost all in computer and related services; the second largest growth area was engineering services. (*The BC High Technology Sector, 1999, pg. 8, BC Stats.*)

INTRODUCTION

The growth of British Columbia's "high-tech" economy, and the demand for high-tech employees has received much attention, but there has been little focus on former students from BC's public College and Institute high-tech programs.

Aggregated results from the 1995 to 1998 Student Outcomes Surveys reveal that, overall, students from high-tech programs encounter positive education and employment outcomes that parallel growth in BC's high-tech sector. In particular, these data reveal that many former students from high-tech programs are tapping into labour-market demand for high-tech workers and finding full-time training-related employment.

This issue paper analyzes former high-tech students' demographics, education and employment outcomes. A cohort of high-tech students from five different programs were selected for this analysis. This study includes former students who were surveyed in 1995,1996,1997 and 1998, having left their program the year before. This is not a study of students who were enrolled consecutively over these 4 years.


Categories of High-Tech Students
1. Business & Management (N=456)
2. Computer & Information Science (N=1257)
3. Construction & Precision Prod. (N=783)
4. Engineering, Electrical & Electronics (N=2151)
5. Visual, Performing & Fine Arts (N=617)

About Issue Papers

Issue papers are brief studies that examine data taken from the annual BC College and Institute Student Outcomes Survey.

Each year six issue papers are released covering different topics and subjects.

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BRITISH COLUMBIA
Outcomes Working Group

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The majority of this growth was in the "service" industries which grew 4.3 percent, almost all in computer and related services, the second largest growth area was engineering services. (*The BC High Technology Sector, 1999, pg. 3, BC Stats.*)

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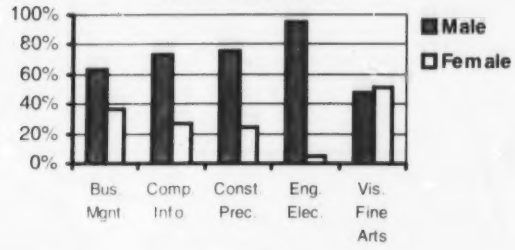
Who are former high-tech students?

Between 1995 and 1998, the majority of former students from high-tech programs were male . Apart from Visual, Performing and Fine Arts', high-tech programs were comprised of approximately 80 percent male and 20 percent female students.

Figure 1
Gender Distribution



Overall, former students from high-tech programs were older than other former BC College and Institute students. Between 1995 and 1998 the median age of former high-tech students was 27, compared to the provincial median of 25.

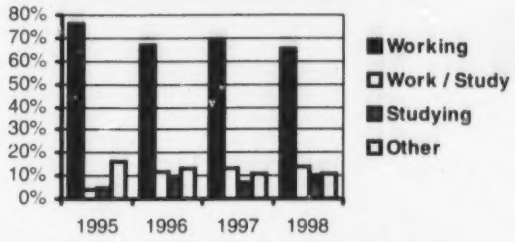
Visual, Performing and Fine Arts programs had the highest percentage of younger students with seventy-four percent under 30 years of age while Business and Management had the highest percentage of mature students with sixty-one percent over 30.

What are former high-tech students doing a year after leaving school?

While the percentages varied among the different categories of high-tech students, 80 percent of former students were either working or working and studying when surveyed. Thirteen percent of former high-tech students were neither working nor studying when interviewed.

Former students' current activity varied somewhat from 1995 to 1998 for each high-tech program. The likelihood that former students were studying, or studying and working was higher among all groups in 1998 than in 1995.

Figure 2
95'-98 Current Activity



Nearly all categories of former students who were surveyed in 1998 had higher rates of employment in than students who were surveyed in 1995.

Former Computer and Information Services students' employment rates increased the most, rising from 81 percent in 1995 to 89 percent in 1998. This growth is consistent with employment growth in related industries within the high-tech sector (*The BC High Technology Sector, 1999, pg. 8, BC Stats.*).

The employment rates of former Engineer, Electrical and Electronics students' showed the greatest decline, dropping from 80 percent in 1995 to 72 percent in 1998. This appears to be contrary to provincial statistics that show the number of engineering services positions has increased in the province (*The BC High Technology Sector, 1999, pg. 8, BC Stats.*). Going on to further studies appears to be a partial explanation for this observation. When asked why they were not working, more Engineering, Electrical and Electronics students answered because they were attending school than any other group of high-tech students. In 1998, twenty-eight percent of these former students were either studying, or working and studying; in 1995 the comparable figure was ten percent.

Does former students' education help them find and perform their jobs?

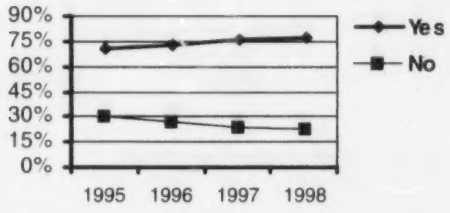
Most employed former high-tech students felt their studies were "very" or "somewhat" useful for both getting and performing their jobs. Former students from Computer and Information Services programs were most positive about how well their education had helped them get and perform jobs. Eighty-nine percent of these students said their education was "very" or "somewhat" useful for obtaining employment and 84 percent said it was useful for performing their job.

Visual, Performing and Fine Arts and Construction and Precision Production students were least positive about how well their programs helped them get and perform jobs. Approximately 75 percent of both groups said their program was "very" or "somewhat" useful for getting a job, and approximately 70 percent said the same about performing their job.

Do former students find training-related employment?

Approximately seventy-four percent of employed former high-tech students said their jobs were training-related. The percentage of former high-tech students working in training-related jobs increased between 1995 and 1998. Former students from Computer and Information Services programs were most likely to be in training-related jobs in both 1995 (73%) and 1998 (82%). Former construction and precision production students were least likely to be working in training-related jobs in 1998 (68%), a decrease from the 73 percent who were working in such jobs in 1995.

Figure 3
95–98 Training Related Employment



Do former students achieve the goals they had for enrolling?

In general, former high-tech students enrolled to obtain job skills. Nearly seventy percent of all high-tech students who left their programs between 1995 and 1998 indicated this. To decide on, or change, a career was the next most commonly cited goal for enrolling. Other popular goals included learning and improving skills.

Approximately eighty-four percent of former students said they "completely" or "mostly" achieved their main goal for enrolling.

The percentages of students who felt they achieved their goals for enrolling varied slightly among high-tech students who were surveyed between 1995 and 1998. In particular, in 1998, 78 percent of former Construction and Precision Production and 73 percent of Business and Management students said they "completely" or "mostly" achieved their goals; the percentages of students who felt they met their goals in 1995 were 85 and 78 percent, respectively.

Are former high-tech students satisfied with their education?

Approximately 80 percent of high-tech students who were surveyed between 1995 and 1998, said their studies were "completely" or "mainly" satisfying.

Students' satisfaction with their studies varied from year to year. Former visual, performing and fine arts students who left their programs in 1998 (78%) were more likely to be "completely" or "mainly" satisfied with their studies than their counterparts who left their programs in 1995 (70%).

Conversely, former Business and Management students were more likely to be "not at all" or "partially" satisfied with their studies in 1998 (30%) than students who were surveyed in 1995 (18%)

Conclusions

Former high-tech students are distinct from other college and institute students, in both gender and age. The high-tech sector is perhaps one of the most male-dominated sectors of B.C's economy, a trend that is mirrored in high-tech programs at BC's colleges and institutes.

The goals former students had for enrolling offer a possible explanation for why former high-tech students tended to be older than other B.C. college and institute students. While obtaining "job skills" was the most commonly cited reason former students had for enrolling in high-tech programs, over forty percent enrolled to decide, or change careers, suggesting that the high-tech sector has become an attractive career path, particularly for those leaving careers and embarking on new ones.

There is an indication that the number of former high-tech students who have found training-related employment has kept pace with overall development in the high-tech sector. Former high-tech students from all program areas who left their program in 1998, except Engineer, Electrical and Electronics and Visual, Performing and Fine Arts, had higher rates of employment in 1998 than students who left their program in 1995. Overall, these employment outcomes are consistent with the growth of BC's high-tech sector.

Students from Computer and Information Science programs were most likely to find training related employment, consistent with the six percent annual growth in computer and related services' occupations.

Conversely, the fact that former Construction and Precision Production students were less likely to be working in training-related jobs may be connected to the fact that employment growth in these industries has lagged, with an annual increase of only two percent since 1988. (*The BC High Technology Sector, 1999, pg. 9, BC Stats.*)

Evaluating the outcomes of former college and institute students whose programs were intended to lead to employment in this sector is challenging since there are no consistent criteria or definitions to identify post-secondary programs that are considered high-tech. If the post-secondary education sector and government adopted such a classification it would be very useful for performing a larger-scale evaluation of high-tech education programs. Such a classification would also improve researchers' ability to study the relationship between these programs, the students who enroll in them, and their outcomes in the high-tech sector of BC's economy.

References

Profile of the British Columbia High Technology Sector, 1998 Edition, A joint project of BC Stats; Ministry of Finance and Corporate Relations and the Science, Technology and Telecommunications Division, Information, Science and Technology Agency, 1999

About the College & Institute Student Outcomes Survey Project

The BC College and Institute Student Outcomes Survey Project is jointly funded by Human Resources and Development Canada and the Ministry of Advanced Education, Training and Technology, under the Canada/BC Strategic Initiative Program, and BC's public colleges and institutes.

The British Columbia Outcomes Working Group (OWG) oversees all aspects of the project, from data collection through to the reporting of results. The OWG is a decade-old partnership between colleges and institutes and system bodies, such as the Ministry of Advanced Education, Training and Technology, the Advanced Education Council of BC and the BC Council of Admissions and Transfer. The partnership is one of shared interests, funding and expertise.

The survey results are used:

- by colleges and institutes to evaluate program offerings and services;
- to support decision making and program evaluation by the Ministry;
- to enhance understanding of the labour market; and
- to assist new students in selecting their educational programs.

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